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**ECONOMIC INTELLIGENCE REPORT**

**CONSTRUCTION AND IMPORTS OF VESSELS  
FOR THE FISHING FLEETS OF THE USSR  
1950-60**



**CIA/RR 129**

**7 April 1958**

**CENTRAL INTELLIGENCE AGENCY**

**OFFICE OF RESEARCH AND REPORTS**

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ECONOMIC INTELLIGENCE REPORT

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(ORR Project 35.1744)

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

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FOREWORD

This report on construction and imports of fishing vessels by the USSR during 1950-60 is part of a program of ORR to estimate the magnitude of the shipbuilding effort in the USSR. Parallel reports deal with construction of naval, maritime, and inland vessels and with the total effect of the shipbuilding effort on the structure of the Soviet economy.

Because no direct information was available either on the size of the Soviet fishing fleets in various years or on actual construction in the USSR for these fleets, the methodology of estimation involved indirect calculations of construction from such data on plans and plan fulfillment as were available. Assumptions made are carefully described.

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The estimates in this report are first approximations subject to refinement as more information becomes available.

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CONSTRUCTION AND IMPORTS OF VESSELS  
FOR THE FISHING FLEETS OF THE USSR\*  
1950-60

Summary

Fishing fleets are important to the USSR not only because fish is a major staple of the Soviet diet but also because fishing fleets may be used for naval, military, or intelligence operations. The gross additions (Soviet domestic construction plus imports) to these fleets in 1956 are estimated to have been 146,000 gross register tons (GRT),\*\* of which slightly more than 20 percent was constructed domestically and slightly less than 80 percent was imported. It is estimated that by 1960 almost 62 percent of the gross additions to the fleets (151,000 GRT), as shown in the accompanying chart, Figure 1,\*\*\* will be constructed domestically. Imports of fishing vessels\*\*\*\* during the Fifth Five Year Plan (1951-55) were almost 370,000 GRT, or 80 percent of gross additions. During the 5-year period 1956-60, imports are expected to be 54 percent of gross additions.

In both absolute and relative terms, there is a trend toward increasing the tonnage of fishing vessels constructed domestically. The USSR, however, still will rely heavily on imports, mostly from the European Satellites, filling in with imports from countries of Western Europe as needed.

The estimated value of gross additions to the fleet for the Fifth Five Year Plan amounts to almost 1955 US \$570 million.† Value of gross

\* The estimates and conclusions contained in this report reflect the best judgment of ORR as of 1 December 1957.

\*\* Gross register tonnage is a measure wherein the entire internal capacity of the vessel is expressed in register tons (100 cubic feet to the ton). Not included in the measurement are certain spaces such as peak tanks and other tanks of water ballast, open fore-castle, bridge and poop, hatchway excess, certain light and air spaces, anchor gear, steering gear, wheelhouse, galley, cabins for passengers, and other minor spaces specified by law.

\*\*\* Following p. 2.

\*\*\*\* The term fishing vessels as used in this report refers to all types of vessels assigned to the fishing fleets including tenders, trawlers, factory trawlers, seiners, luggers, cutters, barges, and the like but excluding refrigerated fish transport vessels, which usually are associated with the maritime fleet.

† Values are given in 1955 US dollars throughout this report.

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additions for the 5-year period 1956-60 is estimated at almost \$800 million, representing an increase of almost 40 percent more than the Fifth Five Year Plan.

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## I. Introduction.

The size of the Soviet fishing fleets and the supply of vessels to these fleets are of interest and importance not only because of production of food by the fleets but also because of the potential naval use of the fleets and the economic effort required to furnish vessels to the fleets.

The Soviet people traditionally have been large consumers of fish. In 1955 the Soviet supply of fish and meat available for consumption was in the ratio of about 30 to 70 (in terms of weight). The fish catch in 1955 amounted to 2.7 million metric tons.\* 1/\*\*

An example of the use of a fishing fleet for military or naval operations was that of the Japanese during World War II. Fishing trawlers may be converted readily to minesweepers or to radar picket ships, practically all types of fishing vessels are useful for short-haul amphibious attack, 2/ and fishing fleets are used in military exercises and for intelligence purposes. 3/

On the basis of changes in the size of the fishing fleets, if imports and retirements are known, domestic construction of fishing vessels may be derived. This construction constitutes a drain on Soviet resources of materials and manpower. In addition, either foreign exchange or Soviet goods must be traded to procure fishing vessels both from countries of the Sino-Soviet Bloc and from non-Bloc countries.

## II. Domestic Construction.

### A. Introduction.

The Soviet Ministry of the Fish Industry, in addition to operating many shipyards and ship repair yards, contracted with shipyards under the Ministry of Shipbuilding to construct fishing vessels. The Ministry of the Fish Industry procured vessels for three categories of fishing fleets: the inland fishing fleets, the high seas fishing fleets, and the whaling fleets. The areas in which these fishing fleets operate are as follows:

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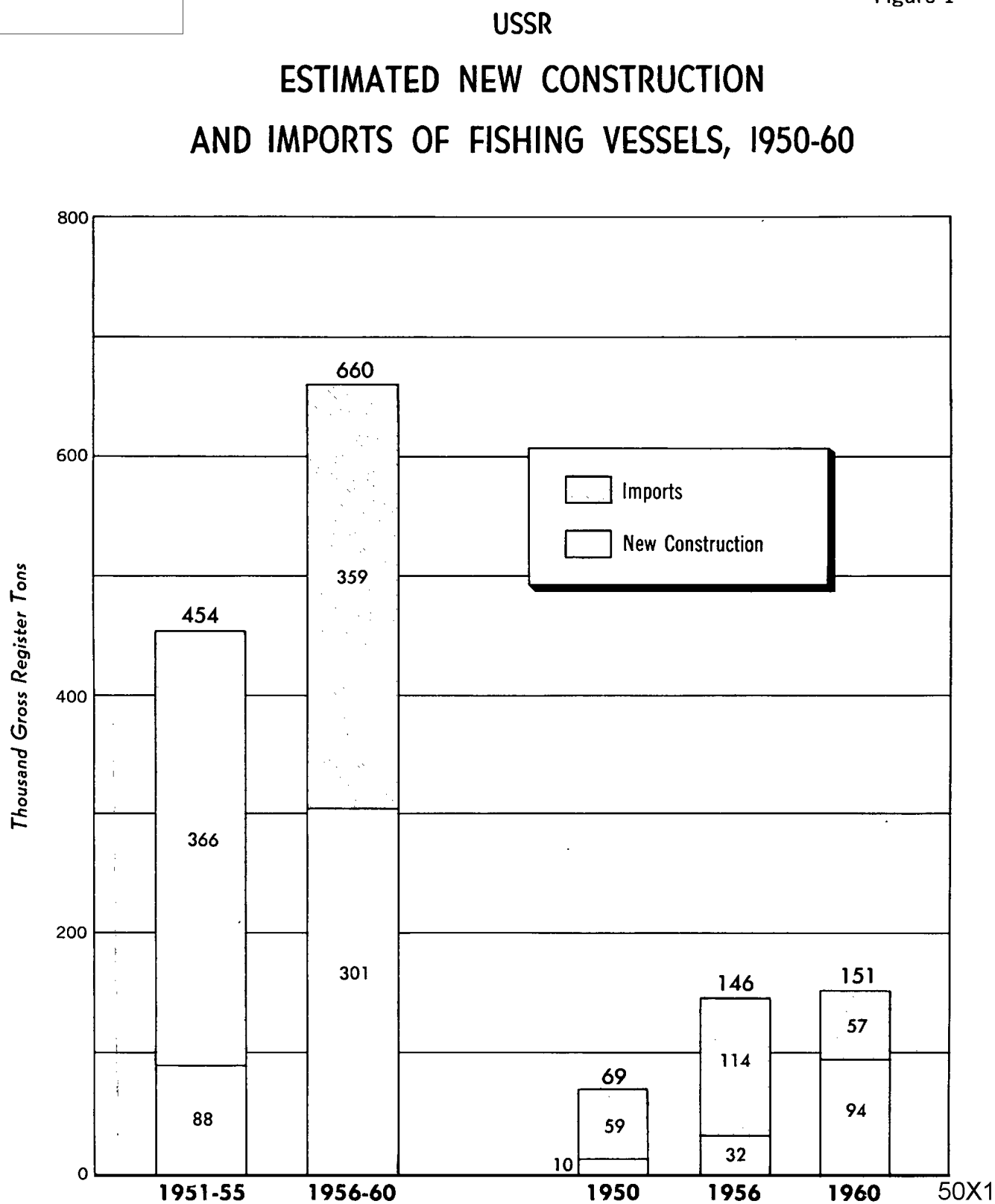
\* Two and one-half million metric tons, excluding marine animals and whales.

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Figure 1 50X1



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<u>Major Inland Fishing Areas</u>	<u>High Seas Fishing Areas</u>	<u>Whaling Areas</u>
Caspian Sea	Baltic Sea	Northern Pacific Ocean
Black and Azov Seas	Northern waters	Antarctic Ocean
Aral Sea - Lake Balkhash	Far Eastern waters	

The inland fishing fleets consist mainly of sailboats or motor-boats under 100 GRT in size. Non-self-propelled cannery barges are also included in these fleets. There is little construction for these inland fishing fleets, because any sizable increase in operations will put too severe a drain on the number of fish available. The uniformity of the actual and planned catch by the inland fleets is shown in Table 1.\* This table also shows the actual and planned buildup of the high seas and whaling fleets. Tonnages in Table 1 for the whale catch include other marine animals, principally seals. There is practically no information available on the size of the sealing operations or of the sealing fleet. Sealing operations are principally coastal, however, using small motorboats. Soviet additions of fishing vessels are therefore primarily for the high seas fishing fleets and for the whaling fleets, the inland fleets being on a maintenance basis.

B. High Seas Fishing Fleets.\*\*

1. General.

Estimates of domestic construction of vessels for the Soviet high seas fishing fleets have been calculated from plan announcements and data on plan fulfillment.

The Soviet Fifth Five Year Plan (1951-55) announced an intention to increase the launching of fishing vessels by 3.8 times compared with launchings in 1950. 4/ The plan was not fulfilled, however, and the launching of fishing vessels in 1955 was estimated to be only 2.6 times that in 1950. 5/

The original Sixth Five Year Plan (1956-60) contained the statement that domestic construction of trawlers and fish transport vessels in the USSR in 1960 was to be 3.9 times construction in 1955, 6/ and it is estimated that this plan will be fulfilled. The wording of the statement in this plan is different from the two preceding plans in that fish transport vessels are specifically included. These fish transport vessels are believed to refer to the larger refrigerated vessels which are assigned to the fishing industry. The Aktyubinsk, which is

\* Table 1 follows on p. 4.

\*\* Refers to seiners and trawlers fishing in the Baltic Sea and northern and Far Eastern waters.

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Table 1

Estimated Soviet Fish Catch, by Fishing Areas a/  
Selected Years, 1950-60

Thousand Metric Tons				
(1)	(2)	(3)	(4)	(5)
Year	Seiner and Trawler Catch from the High Seas Fishing Areas <u>b/</u>	Inland and Coastal Fishing from Small Craft <u>c/</u>	Whaling and Sealing <u>d/</u>	Total <u>e/</u>
1950	590	830	128	1,755
1955	1,410 <u>f/</u>	970	242	2,740
1960	2,800 <u>f/</u>	1,100	300 <u>g/</u>	4,200

a. The sum of items in columns (2), (3), and (4) for given years does not equal the total reported in column (5). This discrepancy is probably caused by the inclusion in column (5) of items not included in columns (2), (3), and (4): for example, seals or the fish catch of collective farms.

b. 7/. Including fishing in the Baltic Sea and in northern and Far Eastern waters.

c. 8/. Including fishing in the Caspian, Black, Azov, and Aral Seas, in rivers, and in Lake Balkhash and other inland lakes.

d. 9/. Including the northern Pacific and the Antarctic Oceans, in which the catch is whales, seals, and other marine animals.

e. 10/

f. The catch reported was 1,630 metric tons in 1955 and 3,200 metric tons in 1960 but probably included whales, seals, and other marine animals.

g. Estimated.

believed to be the first of these vessels constructed in the USSR, was completed in 1956. Construction of this type of vessel is continuing at the rate of 3 or 4 vessels per year, and it is estimated that construction in 1950 may be at the rate of 13,000 GRT per year.

The Soviet Minister of the Fish Industry on a 1956 Canadian tour outlined the following shipbuilding plans, presumably for the period of the original Sixth Five Year Plan 11/: three 50,000-GRT whale factory vessels (1 to be nuclear propelled), 75 large trawlers with fish reduction plants, 100 trawlers of more than 1,000 horsepower (hp) each, 600 trawlers of 400 hp each, 700 seine net vessels, 55 refrigerated

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fish carriers of from 2,000 to 4,000 GRT, and more than 800 smaller vessels. Excluding those vessels not in the high seas fishing fleets -- the whale factory vessels, fish carriers, and smaller vessels -- the additions to the high seas fishing fleets amount to about 600,000 GRT.

2. Relationship of the Fish Catch to the Size of the Fleets.

For the purposes of this report it was assumed that there is a direct relationship between the size of the fishing fleet and the fish catch and that productivity of the fishing fleets (catch in metric tons of fish per gross register ton of fleet per year) will increase at a constant rate of 3 percent per year.\* The assumption of this increase of 3 percent per year is believed to be valid because of the large trawlers and fish factory vessels being added to the Soviet fleets between 1950 and 1960 and in spite of the fact that the productivity ratios of the fishing fleets of the world, as shown in Table 2, do not show a similar rise. None of the other countries listed in Table 2 has shown any large increase in size of fishing fleets during 1950-55. For example, the UK has added 1 fish factory vessel to its fleets since 1950, compared with 24 added by the USSR.

Table 2

Productivity of Fishing Fleets of Selected Countries a/  
1950-55

Metric Tons of Fish Catch per Gross Register Ton of Fleet

<u>Country</u>	<u>1950</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>Average</u>
US <u>b/</u>	4.8	4.3	4.4				4.6
UK <u>b/</u>			1.7	1.8	1.8	1.9	1.8
Japan	2.5		3.9	3.7	3.5		3.4
Netherlands	2.7	3.2	3.5	3.9	3.9	3.5	3.5
Iceland	7.2	7.2	7.0	7.4	6.1	6.6	6.9

a. 12/

b. Based on the assumption that gross register tons divided by net register tons equal 2.432. 13/

\* Estimates of productivity of Soviet high seas fleets in metric tons of catch per gross register ton of fleet for 1950, 1955, and 1960 are shown in Table 5, Appendix A, p. 11, below.

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It was assumed that retirements of fishing vessels of the high seas fishing fleets in the USSR would be 2.5 percent of the tonnage of the 1950 Soviet fleets. Because vessels added during 1950-55 will not become over-age, this assumption seemed more reasonable than basing the retirement on the size of the fleets for each year.

3. Tonnage Constructed and Size of the Fleets.

Detailed calculations (see Appendix B) resulted in the following tonnages of Soviet construction for the high seas fishing fleets (estimates for each year are shown in Tables 4 and 7\*):

<u>Period</u>	<u>Thousand Gross Register Tons</u>
1951-55	77.5
1956-60	241.0
1950	7.9
1956	29.7
1960	66.8

As calculated in Appendix B and Table 8\*\* and shown in the accompanying chart, Figure 3,\*\*\* the estimated size of the high seas fishing fleets is as follows:

<u>Year</u>	<u>Thousand Gross Register Tons</u>
1950	375
1955	775
1960	1,330

The trend of the above estimates of the fishing fleets is corroborated by Soviet reports. The expansion of the fleets during 1950-55 was reported as 111 percent, 14/ and the expansion indicated above for the same period is 107 percent.

\* Appendix A, pp. 11 and 13, respectively, below.

\*\* Appendix B, p. 15, below.

\*\*\* Following p. 16, below.

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C. Whaling and Inland Fleets.

To construction of fishing vessels in the USSR, discussed above, should be added construction of whale factory vessels, which were revealed by the Minister of the Fish Industry to be part of construction under the original Sixth Five Year Plan.\* Construction of the first of these vessels has started in the Nikolayev Shipbuilding Plant imeni I.I. Nosenko. 15/ The estimated size of this vessel is 25,000 GRT, and the vessel should be completed in 1958, with another vessel of the same type to be completed in 1959 or 1960.

Because the size of the inland fishing fleets has been stabilized, construction for these fleets is only that which is necessary to replace losses. This construction is estimated to be not more than 2,000 GRT per year and consists of small vessels. Construction for the inland fishing and the whaling fleets was estimated in thousand gross register tons as follows\*\*:

<u>Period</u>	<u>Fleets</u>	
	<u>Inland Fishing</u>	<u>Whaling</u>
1951-55	10.0	
1956-60	10.0	50.0
1950	2.0	
1956	2.0	
1960	2.0	25.0

D. Total.

Total domestic construction for all Soviet fishing fleets during the Fifth Five Year Plan amounted to almost 90,000 GRT. Construction during the 5-year period 1956-60 is expected almost to quadruple. Estimates for selected years are as follows\*\*:

\* See B, 1, above.

\*\* See Table 7, Appendix A, p: 13, below.

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<u>Period</u>	<u>Thousand Gross Register Tons</u>
1951-55	87.5
1956-60	301.0
1950	9.9
1956	31.7
1960	93.8

III. Imports.

Imports of fishing vessels by the USSR during the Fifth Five Year Plan (1951-55) were almost 370,000 GRT, or at least 80 percent of gross additions. For the 5-year period 1956-60, imports are expected to be slightly more than 54 percent.

A greater tonnage of fishing vessels was imported by the USSR from sources outside the Sino-Soviet Bloc than from inside the Bloc in 1956. The non-Bloc sources, all in Western Europe, were West Germany, Finland, Sweden, and the UK. The Bloc sources were East Germany, Poland, and Rumania. It is estimated that by 1960 imports from Western Europe will decline drastically to less than 20 percent of total imports. The tabulation below summarizes imports in thousand gross register tons, by area (estimates for each country and each year are shown in Tables 6 and 7\*):

<u>Period</u>	<u>Bloc</u>	<u>Western Europe</u>	<u>Total</u>
1951-55	283.5	83.2	366.7
1956-60	244.8	114.4	359.2
1950	51.3	7.6	58.9
1956	51.5	62.4	113.9
1960	47.2	10.0	57.2

IV. Gross Additions.

A. Tonnage.

The gross additions to the Soviet fishing fleets in 1956 are estimated to have been 146,000 GRT, of which slightly more than 20 percent were constructed domestically and slightly less than 80 percent

\* Appendix A, p. 12 and 13, respectively, below.

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were imported. It is estimated that by 1960 almost 62 percent of the gross additions to the fleets, about 151,000 GRT, will be constructed domestically.

During 1951-55, gross additions to the Soviet fishing fleets amounted to more than 450,000 GRT. Only 19 percent of this tonnage was produced in the USSR, 63 percent coming from the European Satellites, and the remaining 18 percent from Western Europe, as shown in the accompanying chart, Figure 2.\* Estimates for gross additions are as follows (estimates for each year are shown in Table 7\*\*):

<u>Period</u>	<u>Thousand Gross Register Tons</u>
1951-55	454.2
1956-60	660.2
1950	68.8
1956	145.6
1960	151.0

Gross additions to the high seas fleets alone in 1956-60 amount to 600,000 GRT, which is exactly equal to planned construction announced by the Ministry of the Fish Industry (see II, B, 1, above).

B. Value.

The estimated value of gross additions to the Soviet fishing fleets for the Fifth Five Year Plan (1951-55) amounts to almost \$570 million, and the estimated value for 1956-60 is almost \$800 million (almost 40 percent more than under the Fifth Five Year Plan). The estimates shown in Table 3\*\*\* are based on the estimated cost of construction of trawlers in the US in 1955 (\$1,250 per gross register ton). The estimate of cost of the whale factory vessels is based on the 1955 cost of large tankers in the US (\$528 per gross register ton).

\* Following p. 10.

\*\* Appendix A, p. 13, below.

\*\*\* Table 3 follows on p. 10.



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Table 3

Soviet Construction and Imports of Fishing Vessels  
1951-60

Item	1951-55		1956-60	
	Thousand Gross Register Tons	Cost of Construction in the US (Million 1955 US \$)	Thousand Gross Register Tons	Cost of Construction in the US (Million 1955 US \$)
Soviet construction	87.5	109.4	301.0	340.2
Imports	366.7	458.4	359.2	449.0
Total	<u>454.2</u>	<u>567.8</u>	<u>660.2</u>	<u>789.2</u>

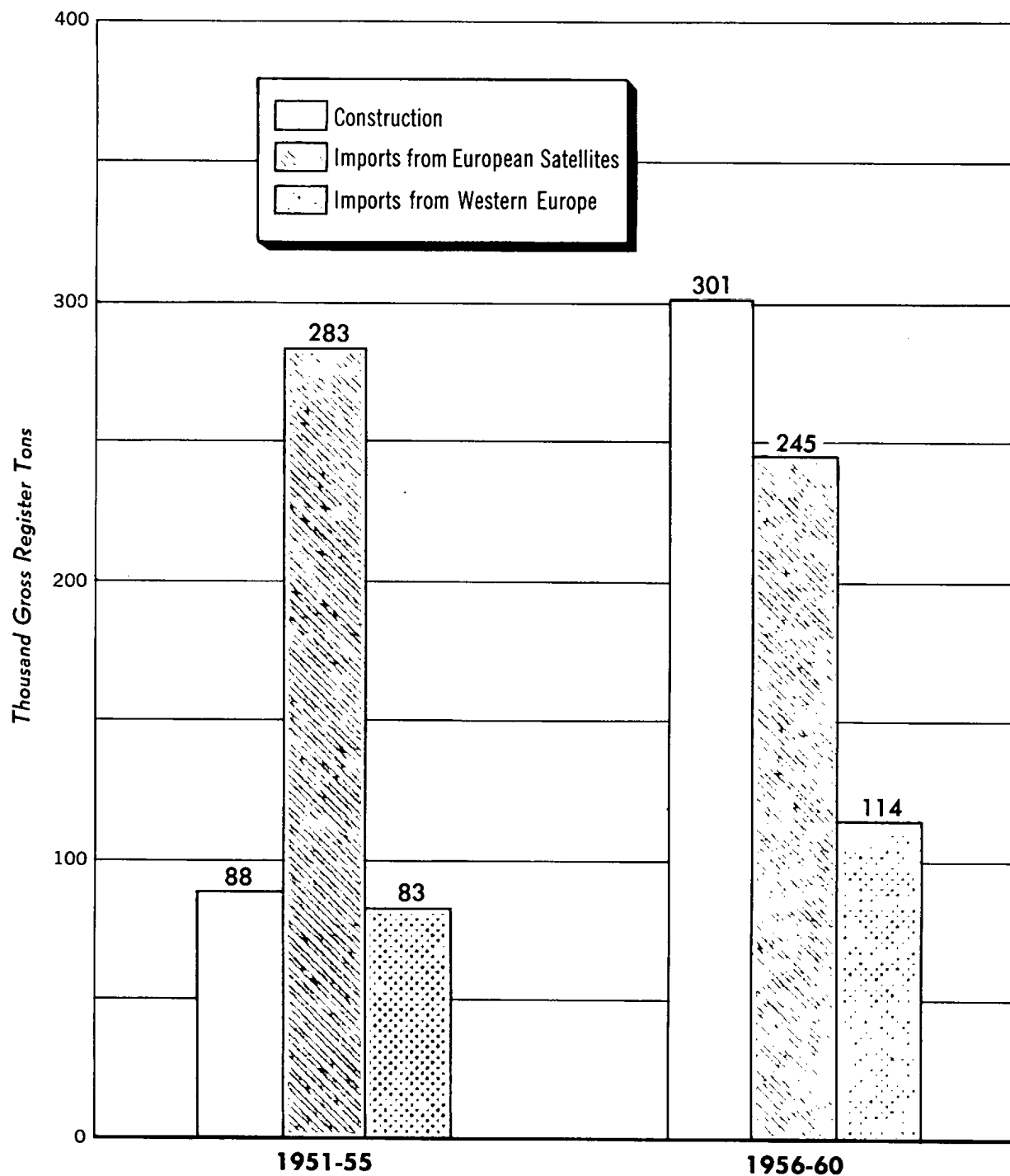
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Figure 2

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USSR

# ESTIMATED CONSTRUCTION AND IMPORTS OF FISHING VESSELS DURING THE FIFTH FIVE YEAR PLAN (1951-55) AND THE ORIGINAL SIXTH FIVE YEAR PLAN (1956-60)



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APPENDIX A

STATISTICAL TABLES

Table 4

Soviet Construction of Fishing Vessels  
for the High Seas Fishing Fleets  
1950-60

Thousand Gross Register Tons				
<u>Year</u>	<u>Amount</u>		<u>Year</u>	<u>Amount</u>
1950	7.9		1956	29.7
1951	10.5		1957	38.9
1952	13.0		1958	48.2
1953	15.5		1959	57.4
1954	18.0		1960	66.8
1955	20.5			

Table 5

Productivity of the Soviet High Seas Fishing Fleets a/  
Selected Years, 1950-60

<u>Metric Tons per Gross Register Ton</u>	
<u>Year</u>	<u>Amount of Fish Catch</u>
1950	1.57
1955	1.82
1960	2.1

a. Based on Table 1, p. 4, above, and estimates of the size of the high seas fleets in Appendix B. Productivity of the Soviet fishing fleets shown in the table appears reasonable compared with the productivity of other countries as shown in Table 2, p. 5, above: for example, the catch in the UK in 1955 was 1.9 metric tons per gross register ton of fleet and in the USSR, 1.82 metric tons per gross register ton.

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Table 6  
Soviet Imports of Fishing Vessels  
1950-60

Thousand Gross Register Tons											
Source of Import a/	1950	1951	1952	1953	1954	1955	1956	1957 b/	1958 b/	1959 b/	1960 b/
Sino-Soviet Bloc											
Poland	0	4.9	4.3	4.9	6.1	6.1	8.0	10.9	11.3	11.7	12.0
East Germany	47.0	58.0	62.0	40.0	34.6	33.5	35.7	32.2	28.0	23.8	23.8
Rumania	4.3	4.7	5.2	5.8	6.4	7.0	7.8	8.5	9.4	10.3	11.4
Total	<u>51.3</u>	<u>67.6</u>	<u>71.5</u>	<u>50.7</u>	<u>47.1</u>	<u>46.6</u>	<u>51.5</u>	<u>51.6</u>	<u>48.7</u>	<u>45.8</u>	<u>47.2</u>
Western Europe											
Belgium	4.5	4.5	1.5	0	0	0	0	0	0	0	0
Denmark	0	0	0.2	1.4	0	0	0	0	0	0	0
Finland	3.1	2.0	2.9	2.0	10.0	8.8	10.2	8.0	9.5	10.0	10.0
West Germany	0	0	0	0	0	20.0	35.0	5.0	0	0	0
Great Britain	0	0	0	0	0	0	4.0	6.8	2.7	0	0
Sweden	0	8.2	13.5	0.8	0	7.3	13.1	0	0	0	0
Total c/	<u>7.6</u>	<u>14.7</u>	<u>18.1</u>	<u>4.2</u>	<u>10.0</u>	<u>36.2</u>	<u>62.4</u>	<u>19.8</u>	<u>12.2</u>	<u>10.0</u>	<u>10.0</u>
Grand total c/	<u>58.9</u>	<u>82.3</u>	<u>89.6</u>	<u>54.9</u>	<u>57.1</u>	<u>82.8</u>	<u>113.9</u>	<u>71.4</u>	<u>60.9</u>	<u>55.8</u>	<u>57.2</u>

a. Imports from countries not included are considered to be negligible.

b. Estimates.

c. Tonnages shown reflect the rounding of original data and may not add to the totals shown.

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Table 7

Summary of Soviet Construction, Imports, and Gross Additions of Fishing Vessels  
1950-60

Year	Soviet Construction				Imports		Gross Additions <sup>a/</sup>
	High Seas Fishing Fleets	Inland Fishing Fleets	Whaling Fleets	Total	Sino-Soviet Bloc	Western Europe	
1950	7.9	2.0		9.9	51.3	7.6	68.8
1951	10.5	2.0		12.5	67.6	14.7	94.8
1952	13.0	2.0		15.0	71.5	18.1	104.6
1953	15.5	2.0		17.5	50.7	4.2	72.4
1954	18.0	2.0		20.0	47.1	10.0	77.1
1955	20.5	2.0		22.5	46.6	36.2	105.3
1956	29.7	2.0		31.7	51.5	62.4	145.6
1957	38.9	2.0		40.9	51.6	19.8	112.3
1958	48.2	2.0	25.0	75.2	48.7	12.2	136.1
1959	57.4	2.0		59.4	45.8	10.0	115.2
1960	66.8	2.0	25.0	93.8	47.2	10.0	151.0
Total							<u>1,183.2</u>

a. Soviet construction plus imports.

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APPENDIX B

METHODOLOGY

For calculation of construction for the Soviet high seas fishing fleets during 1950-60 the following simultaneous equations were set up:

1. 1955 fleet equals 1950 fleet plus Soviet construction during 1951-55 plus imports during 1951-55 minus retirements during 1951-55.
2. 1960 fleet equals 1955 fleet plus Soviet Construction during 1956-60 plus imports during 1956-60 minus retirements during 1956-60.

Indexes of the size of the Soviet high seas fishing fleets were calculated on the basis of the reported fish catch (see Table 1\*) and an assumed annual increase of 3 percent in productivity, as shown in Table 8.

Table 8

Derivation of the Index of the Size  
of the Soviet High Seas Fishing Fleets  
Selected Years, 1950-60

<u>Year</u>	<u>High Seas Fish Catch (Million Metric Tons)</u>	<u>Index of Size of Fleet <sup>a/</sup> (1950 = 100)</u>
1950	0.59	100
1955	1.41	206
1960	2.80	354

a. For the derivation of this index, see the accompanying text.

\* P. 4, above.

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This index allows for a 3-percent annual increase in productivity. The index is an index of fish catch less the increase in productivity for the period: for example,

$$\frac{1.41}{0.59} = 239$$

and the assumed increase for 1950-55 (116, derived from the assumed annual increase of 3 percent) yields the equation

$$\frac{239}{116} = 206$$

On the assumption that the annual increase in productivity is 3 percent, with X being the size of the fleet during 1950, the fleet during 1955 = 2.06X, and the fleet during 1960 = 3.54X. With Y being Soviet construction during 1950, Soviet construction during 1955 = 2.6Y, and Soviet construction during 1960 = 2.6Y x 3.9 - 13 = 10.1Y - 13.\*

$$\text{Total Soviet construction during 1951-55} = 5 \left[ \bar{Y} + \frac{3}{5} (1.6Y) \right] = 9.8Y.$$

$$\begin{aligned} \text{Total Soviet construction during 1956-60} &= 5 \left[ 2.6Y + \frac{3}{5} (7.5Y - 13) \right] \\ &= 35.5Y - 39. \end{aligned}$$

Imports of fishing vessels to the USSR are shown in Table 6.\*\*

$$\begin{aligned} \text{Retirements during 1951-55} &= \text{retirements during 1956-60} = 5 \times 0.025X \\ &= 0.125X. \end{aligned}$$

Substitution in equations (1) and (2) gives the following simultaneous equations:

$$2.06X = X + 9.8Y + 366.7 - 0.125X$$

$$3.54X = 2.06X + 35.5Y - 39 + 359.2 - 0.125X$$

Solving for Y gives the following results for construction for the Soviet high seas fishing fleets:

\* These relationships are shown graphically in the accompanying chart, Figure 3, following p. 16.

\*\* P. 12, above.

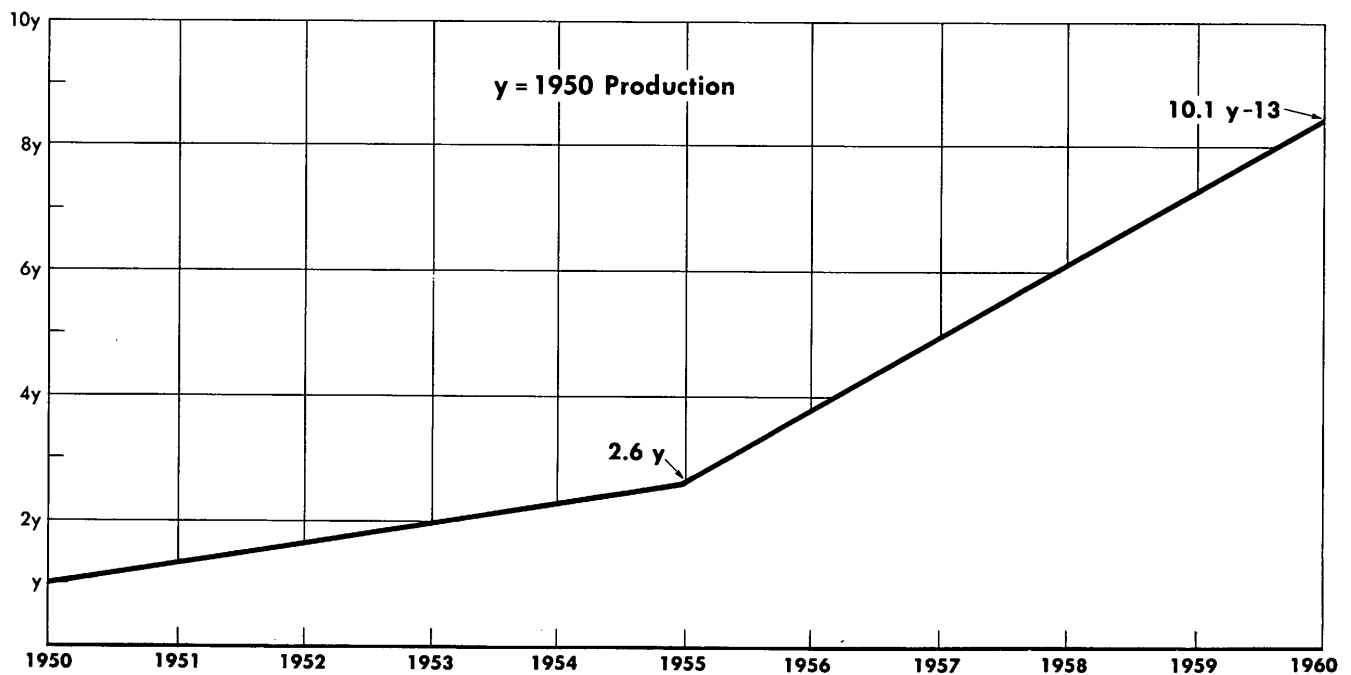


USSR

Figure 3

50X1

# ESTIMATED CONSTRUCTION OF VESSELS FOR THE HIGH SEAS FISHING FLEETS IN TERMS OF 1950 PRODUCTION, 1950-60



50X1



S-E-C-R-E-T

<u>Period</u>	<u>GRT</u>
1951-55	77,500
1956-60	241,000
1950	7,900
1955	20,500
1960	66,800

Solving for X gives the following results for the size of the Soviet high seas fishing fleets:

<u>Year</u>	<u>GRT</u>
1950	375,000
1955	775,000
1960	1,330,000

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